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Implementation of a Discharge Planning to Improve Quality of Life in Breast Cancer Patients: A Quasi-Experimental Study

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ABSTRACT

Background: Breast surgery for women newly diagnosed with breast cancer is associated with poor postoperative quality of life (QOL). The aim of this study was to determine the effectiveness of a programmed discharge planning in improving overall QOL and its physical, emotional, social, and spiritual domains.

Method: In this quasi-experimental study, we evaluated the newly diagnosed breast cancer women undergoing breast-conserving therapy in two groups, an experimental group (n = 35) and a control group (n = 34). The experimental group received programmed discharge planning at the time of hospital admission until six weeks after discharge. The control group received routine hospital care. Participants completed the QOL questionnaires before and after the intervention. The data were analyzed using the independent-samples t test, Fisher exact test, and Mann-Whitney U.

Results: Before the intervention, there were no significant differences between the control and experimental groups in overall QOL or its physical, emotional, social, and spiritual domains. The data analysis after intervention showed significant improvement in QOL in the experimental group as compared with the control group. The changes in the scores of various domains of QOL were statistically significant ($P < 0.01$).

Conclusion: This study emphasizes that programmed discharge planning is useful for improving QOL after breast-conserving surgery. Our finding could be applied to breast cancer patients with radiation therapy or chemotherapy.

Introduction

Cancer is a major public health problem worldwide. According to statistics, the most frequent type of cancer in women is the cancer of the breast.[1] It is also the most prevalent cancer diagnosed among Iranian females, accounting for 24.4% of all malignancies.[2] A treatment choice for breast cancer is surgery. Surgical treatment of breast cancer, aimed at facial and breasts areas, have deep psychological impacts on women's body image, quality of life, and sexual life.[3]

Anxiety, worry, stress, fear, depression, and social isolation are the most experienced problems during the course of breast cancer diagnosis and surgical procedures. These psychological problems lead to the progression of cancer, as well as a slowed treatment process.[4-7]

Despite these problems, the average length of stay after surgical procedures has been decreasing for a variety of reasons, including advances in medical technology and financial problems.[8, 9] Shorter stays in hospital after the operation for breast cancer are suitable for patients who recover quickly from surgery.[10] Nevertheless, it is essential to establish appropriate follow-up services for women with breast cancer after discharge.[11]

An essential element in delivering health care is continuity of care. This is particularly important for people with chronic diseases.[12] The associations

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between continuity of care and patient satisfaction,[13] health-related quality of life,[14] reduced readmission rate, urgent care use,[15] and health care costs have been demonstrated previously.[16]

Discharge planning is an essential component of continuity of care.[17] Planning the discharge has demonstrated positive outcomes for hospitalized patients, including decreased early unplanned readmissions and costs for providing health services.[18,19]

Recent data suggest that newly diagnosed breast cancer patients who are discharged early from the hospital need an effective follow-up plan. Although early discharge is safe and feasible, postoperative follow-up plan should be initiated as soon as possible after surgery. It also could help improve patients' quality of life (QOL). Quality of life is now considered an important end point in the treatment of breast cancer patients. These patients might benefit from programmed discharge planning.

The aim of this study was to determine the effectiveness of a programmed discharge planning in improving overall QOL and its physical, emotional, social, and spiritual domains in breast cancer patients undergoing breast-conserving therapy (BCT). The findings of this investigation can provide the basic information required for the development of a systematic discharge planning service.

Methods

This quasi-experimental study was conducted at Imam Khomeini Hospital of Tehran University of Medical Sciences between December 2010 and May 2011.

All subjects of the study were identified at diagnosis through the results of the histopathological reports. Inclusion criteria were as follows: being a female aged ≥ 20 years, having a newly diagnosed stage I/II breast cancer, being an initial BCT candidate, having no history of mental or physical illness, being reachable via telephone, living in Tehran, have not participated in a patient education program, have not undergone immediate mastectomy after BCT.

Patients were contacted after being referred to the breast cancer clinic. The data were collected through interviews with patients and the review of their medical records. The patients were invited to participate in the study if they met the inclusion criteria.

Demographic and medical data for the participations were recorded. This questionnaire contained items such as age, marital status, employment, education (illiterate, able to read and write, primary, high school, college, and above), cancer stage, and axillary lymph node dissection (removed nodes).

Two measurements of quality of life were obtained, the first after the diagnosis and the second at the end of the study period.

The sample size for the study was calculated based on QOL end points from previous studies. Using a 95% confidence interval and 80% power, we calculated a sample size of n = 36 in each group. Patients were randomly assigned to 2 groups. The approval by the institutional ethics committee (approval No. S/624/130) and the informed consent from participants were obtained.

Quality of life was assessed using a 51-item questionnaire comprising physical (16 items), emotional (17 items), social (11 items), and spiritual (7 items) domains. The overall QOL was computed by calculating the scores of all the questions. We used the SF-36 questionnaire for physical domain, and the Quality of Life Instrument-Breast Cancer Patient Version(QOL-BC) for emotional, social and spiritual domians. The total score ranged between 0 and 204, with lower scores corresponding to better QOL.

The questionnaire content validity was determined by 10 experts in the breast cancer field, and its reliability was determined by calculating Cronbach's alpha, which was 0.77. Internal consistency and validity were assessed by a pilot study on 15 patients with newly diagnosed breast cancer not included in the study.

The participants in the experimental group completed the patient care needs assessment checklist, telephone consultation form, and home visit form during the intervention. These forms were developed by researchers based on the information in the literature and after interviewing 5 experts in the area of breast cancer.

The patients in the discharge-planning program were provided with preoperative education, postoperative education, two home visits, and telephone consultations. Individual patients' needs were considered in all consultations.

A nursing instruction and counseling were provided in every step based on the patients' individual needs. After patients were discharged, we provided appropriate support and instruction for each patient during two home visits. On each visit, the specific patient needs were identified using the checklist, and then the first author gave instructions on such matters as changing the dressing, managing drains, exercise interventions for upper limb, etc. The first visit was made within the first week after discharge, the second in the sixth week after discharge. Telephone consultations were performed on six occasions with 1-week intervals to address potential problems at times other than during home visits.

Patients in the control group received the hospital routine discharge plan. Two interviews were done in this group: the first one was held upon their admissions to collect data about demographic and medical characteristics, and the second took place 6 weeks after discharge to complete the QOL questionnaire.

Table 1. Baseline Characteristics of Study Participants

Characteristics	Experimental group (n = 36)	Control group (n = 36)	P value
Age			
<35	3 (8.6)	6 (17.6)	0.39*
35-55	26 (74.3)	26 (76.5)	
>55	6 (17.1)	2 (5.9)	
Mean (SD)	46.2 (8.7)	44.3 (9.2)	
Marital status			
Married	27 (77.1)	29 (85.3)	0.71**
Single	3 (8.6)	3 (8.8)	
Divorced	4 (11.4)	1 (2.9)	
Widowed	1 (2.9)	1 (2.9)	
Employment			
Employed	9 (25.7)	10 (29.4)	0.73***
Housewife	26 (74.3)	24 (0.6)	
Education			
Illiterate	6 (17.1)	4 (11.8)	0.46****
Able to read and write	4 (11.4)	4 (11.4)	
Primary	16 (45.7)	14 (41.2)	
High school	6 (17.1)	10 (29.4)	
Collage and above	3 (8.6)	2 (5.9)	
Cancer stage			
Stage I	14 (40.0)	13 (38.2)	0.88**
stage II	21 (60.0)	21 (61.8)	
Axillary lymph node dissection			
Yes	27 (77.1)	24 (70.6)	0.53***
No	8 (22.9)	10 (29.4)	
Missing	1	2	

*Independent *t* test, ** Fisher exact test, *** Chi-square test, **** Mann-Whitney U test

Data analysis

The Statistical Package for the Social Sciences was used for data analysis. Descriptive statistics were used to summarize the demographic and medical characteristics. The Independent t test was used to compare the mean scores on QOL domains between the groups. A significance level of $\alpha = 0.05$ was used in statistical analyses.

Results

A total of 72 women with breast cancer met the inclusion criteria for the study, with 36 in each group. One woman in the experimental group and 2 in the control group withdrew from the study because of mastectomy and moving to another city, respectively.

Table 1 presents descriptive data. Most participants aged 35-55 years. The average age of each group was 44.3 ± 9.2 (control group, mean ± SD) and 46.2 ± 8.7 (experimental group, mean ± SD).

Twenty-nine women (85.3%) in the control group and 27 (77.1%) in the experimental group were married. Most participants had secondary education in both groups (41.2% in the control group, 45.7% in the experimental group). Twenty-four patients (70.6%) in the control group and 26 (74.3%) in the experimental group were unemployed.

Many of the patients in this study had stage II breast cancer (61.8% in the control group, 60% in the experimental group).

Most participants also had axillary lymph node management (65.7% in the control group, 62.8% of the experimental group). There were no significant differences between the groups in age at diagnosis, marital status, employment, education, cancer stage, and axillary lymph node dissection.

Women in the experimental group were followed up for six weeks according to their discharge plan. Table 2 shows the comparison of before- and after-intervention QOL scores between the groups. There was no significant difference in physical, emotional, social, spiritual domain scores or in overall QOL between the groups before the intervention. All QOL domains significantly improved in the experimental group after the intervention compared with the control group (overall QOL: 101.48 vs 46.6; physical domain: 31.8 vs 12.8; emotional domain: 38.1 vs 17.8; social domain: 24.3 vs 11.9; and spiritual domain: 7.1 vs 4.1; $P < 0.01$ for all variables).

Discussion

The global burden of breast cancer continues to increase largely. This issue is a threat to public health throughout the world. However, breast cancer and its treatment can also result in a wide range of physical and psychological problems that exert a negative impact upon patients' QOL.

In general, length of stay in hospital after breast cancer surgery has decreased during the past decades.[9]

Table 2. Pre- and Post-intervention Scores for Quality of Life and Its Domains in the Groups

QOL domains	Time	Experimental group (n = 36)	Control group (n = 36)	P value*
Physical	Before	13.0 (8.2)	10.8 (7.4)	0.25
Domain	After	12.8 (6.7)	31.8 (6.8)	**<0.01**
Emotional	Before	44.5 (5.9)	45.6 (4.2)	0.40
Domain	After	17.8 (4.9)	38.1 (6.0)	**<0.01**
Social	Before	26.7 (4.5)	27.9 (3.3)	0.21
Domain	After	11.9 (3.2)	24.3 (5.1)	**<0.01**
Spiritual	Before	8.8 (3.9)	9.2 (3.3)	0.66
Domain	After	4.1 (1.8)	7.1 (3.2)	**<0.01**
Overall	Before	93.1 (10.4)	93.5 (6.9)	0.83
QOL Score	After	46.6 (7.3)	101.38 (11.1)	**<0.01**
Missing		1	2	

Appropriate follow-up is necessary after early discharge from hospital following surgery for breast cancer. Nursing care planning for patients with breast cancer undergoing surgery can continue after being discharged from hospital. One of the main objectives of continuity of care is to keep the relationships between patients and health care provider.[20] Early discharge from hospital in breast cancer patients needs special follow-up. This may help the patient to complete her long treatment process.

In the current study, we examined the effect of programmed discharge planning including telephone consultation and home visits after breast-conserving surgery on QOL. Before the intervention, both groups had almost the same levels of physical, emotional, social, and spiritual well-being. However, mean scores of all domains of QOL improved significantly in the experimental group 6 weeks after discharge from the hospital, indicating the effectiveness of discharge planning and continuity of care in promoting QOL of women after breast cancer surgery.

No significant changes were found in QOL of the patients in the control group at the end of the study. A reason for this could be that the patients in the control group were discharged after BCT without receiving special nursing cares except for some brochures. As a result, the QOL scores in the control group did not improve by the end of the study.

In a study of patients with coronary artery bypass graft, QOL subscales improved when the patients were provided with postoperative training and counseling sessions over 6 weeks after discharge from the hospital.[21] In other study conducted in Egypt by Mounir *et al.*, a discharge-planning program had a very significant effect on QOL and knowledge of geriatric patients with acute myocardial infarction.[22]

Our finding is especially important for directing the attention toward initiating discharge planning in hospitals. An important element in this study was that the intervention was developed to address the individual needs of the participants. In contrast to the usual patient discharge plan, which was the same for all breast cancer patients after surgery, this intervention focused on the individual's needs. We found that the focus of the discharge plan on physical, emotional, social, and spiritual well-being of individual patients was an essential factor contributing to success in this population.

In conclusion, effective discharge planning can play an essential role in improving QOL in newly diagnosed breast cancer patients after discharge from the hospital. Supporting patients during hospitalization and after discharge has a positive effect on postop-erative patient QOL.

Addressing specific patient needs through an individualized discharge plan may be particularly cost-effective as it increases the self-care knowledge and patient satisfaction and reduces hospital readmission rate and complications after discharge.[23,24]

Discharge planning is important for clinicians and women with breast cancer to optimize long-term QOL.

Conflict of Interest

The authors declare that they have no conflict of interest.

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